

WHAT IS CLAIMED IS:

1. A booting method capable of executing a warm boot or a cold boot in a computer system when a CPU (Central Processing Unit) crash occurs, the computer system having a CPU and a memory, the CPU controlling the memory, the memory storing data and predefined values of the computer system, the booting method comprising the steps of:

(a) causing the computer system to detect that a user wants to execute a hardware reset function or a software reset function when the CPU is in a crash state;

(b) rebooting the CPU by executing a hardware reset operation;

(c) deleting the data and predefined values of the memory to make the computer system return to a default state when the user chooses to execute the hardware reset function; and

(d) regarding the hardware reset operation as a software reset operation when the user chooses to execute the software reset function, wherein the computer system holds the data and predefined values of memory to make the computer system return to a setting state before the CPU crash.

2. The booting method according to claim 1, wherein the step (d) further comprises:

judging whether or not the data in the memory is correct;

enabling the computer system to hold the data and predefined values

- 5 of the memory to make the computer system return to the setting state before the CPU crash if the data in the memory is correct; and

deleting the data and predefined values of the memory to make the computer system return to the default state if the data in the memory is not correct.

- 10 3. The booting method according to claim 1, wherein the computer system is a PDA (personal digital assistant), the memory is an SDRAM (Synchronous Dynamic Random Access Memory), and an operation system of the PDA is a WinCE system.

4. A computer system capable of executing a warm boot or a cold boot
15 when a CPU (Central Processing Unit) crash occurs, the computer system comprising:

a CPU;

a memory, controlled by the CPU, for storing data and predefined values of the computer system;

a judgement-combination circuit for judging whether or not the CPU is crashed;

5 a hardware reset combination circuit, which is electrically connected to the CPU and receives signals from the judgement-combination circuit;

a software reset generating circuit for transferring a software reset signal to the CPU and the judgement-combination circuit when a user chooses to execute a software reset function; and

10 a hardware reset generating circuit for transferring a first hardware reset signal to the judgement-combination circuit and the hardware reset combination circuit when the user chooses to execute a hardware reset function, wherein:

when the judgement-combination circuit receives the software reset
15 signal and judges that the CPU is in a crash state, the judgement-combination circuit controls the hardware reset combination circuit to output a second hardware reset signal to the CPU in order to reboot the CPU, and then transfers a judgement signal to the CPU to inform the CPU that the second

hardware reset signal is an indication signal to replace the software reset signal, and then the computer system holds the data and predefined values of the memory to make the computer system return to a setting state before the CPU crash; and

5 when the hardware reset combination circuit receives the first hardware reset signal, the hardware reset combination circuit transfers a second hardware reset signal to the CPU in order to reboot the CPU, and the CPU deletes the data and predefined values of the memory to make the computer system return to a default state.

10 5. The computer system according to claim 4, wherein:

 before the computer system holds the data and predefined values of the memory, the computer system first executes an operation for judging whether or not the data in the memory is correct;

 if yes, the computer system holds the data and predefined values of
15 the memory to make the computer system return to the setting state before the CPU crash; and

 if not, the data and predefined values of the memory are deleted to make the computer system return to the default state.

6. The computer system according to claim 5, wherein the computer system is a PDA (personal digital assistant), the memory is an SDRAM (Synchronous Dynamic Random Access Memory), and an operation of the PDA is a WinCE system.

5 7. A booting method capable of executing a warm boot or a cold boot when a CPU (Central Processing Unit) crash occurs in a computer system, the computer system having a CPU, a memory, a judgement-combination circuit, a hardware reset combination circuit, a software reset generating circuit and a hardware reset generating
10 circuit, the memory storing data and predefined values of the computer system and being controlled by the CPU, the judgement-combination circuit judging whether or not the CPU is crashed, the hardware reset combination circuit being electrically connected to the CPU and receives signals from the judgement-combination circuit, the software
15 reset generating circuit transferring a software reset signal to the CPU and the judgement-combination circuit when a user chooses to execute a software reset function, the hardware reset generating circuit transferring a first hardware reset signal to the judgement-combination circuit and the hardware reset combination circuit when the user
20 chooses to execute a hardware reset function, and the booting method

comprising the steps of:

(a) judging whether or not the CPU is in a crash state, and going to step (b) if yes;

(b) judging that a user wants to execute a hardware reset function or a software reset function, going to step (c) when the user wants to execute the software reset function, and going to step (d) when the user wants to execute the hardware reset function;

(c) causing the judgement-combination circuit to control the hardware reset combination circuit so as to output a second hardware reset signal to the CPU to reboot the CPU, and going to step (e) after the judgement-combination circuit receives the software reset signal and finds that the CPU is in the crash state;

(d) causing the hardware reset combination circuit to output the second hardware reset signal to the CPU so as to reboot the CPU, and going to step (e) after the hardware reset combination circuit receives the first hardware reset signal;

(e) causing the CPU to receive a judgement signal output from the judgement-combination circuit after the CPU is rebooted, going to step (f) if

the CPU finds that the second hardware reset signal is an indication signal to replace the software reset signal according to the judgement signal, and going to step (g) if the CPU judges that the second hardware reset signal represents the indication signal for executing an hardware reset operation
5 according to the judgement signal;

(f) judging whether or not the data in the memory is correct, holding the data and predefined values of the memory to make the computer system return to a setting state before the CPU crash and thus complete the warm boot if yes, and going to step (g) if not; and

10 (g) deleting the data and predefined values of the memory to make the computer system return to a default state and thus complete the cold boot, and ending this method.

8. The booting method according to claim 7, wherein the computer system is a PDA (personal digital assistant), the memory is an SDRAM
15 (Synchronous Dynamic Random Access Memory), and an operation of the PDA is a WinCE system.

9. The booting method according to claim 7, wherein the step (a) further comprises:

judging that the user wants to execute the hardware reset function or the software reset function if the CPU is not in the crash state;

causing the CPU to receive the software reset signal, execute a software reset operation, and initialize the judgement-combination circuit

5 when the user wants to execute the software reset function; and

causing the hardware reset combination circuit to receive the first hardware reset signal and output the second hardware reset signal to enable the CPU to execute the hardware reset operation when the user wants to execute the hardware reset function.

10 10. The booting method according to claim 7, wherein the step (e) further comprises:

causing the CPU to initialize the judgement-combination circuit.

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